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U. S. Department of Agriculture.

LANDRETHS' PENNSYLVANIA CERTIFIED TOMATO SEED



LANDRETHS' CROWN PICKED CERTIFIED MARGLOBE TOMATO

One of the finest in our Certified Tomato List. A high yielder of fine quality fruits. Suitable for the canner as well as the market and home gardener.

LANDRETHS' PENNSYLVANIA CERTIFIED TOMATO SEED IS SCIENTIFICALLY PRODUCED

Our Tomato Seed is Sold Only in One-quarter,
One-half and One Pound Cardboard Lithographed packages.

Every Crown Picked Certified and Certified Blue Package is Wrapped in Moistureproof Cellophane for your Protection and Sealed with the Seal of the Department of Agriculture of the State of Pennsylvania.

GROWN BY

D. LANDRETH SEED CO., BRISTOL, PA.

LANDRETHS' PENNSYLVANIA CROWN PICKED CERTIFIED AND CERTIFIED TOMATO SEED

A PRODUCT OF SCIENTIFIC SELECTION

All growers who purchase seed expect and should obtain good crops from that seed. *Good Crops* can only be produced by the use of *Good Seed*. By *Good Seed* we mean:

First—Seed which will produce a crop true to type for the variety it represents.

Second—Seed which will produce high yields per acre.

Third—Seed free from disease.

Fourth—Seed of high vitality, that is, quick germinating qualities and the power to make rapid and vigorous growth.

LANDRETHS' PENNSYLVANIA CERTIFIED TOMATO SEEDS ARE GOOD SEEDS — "SEEDS WHICH SUCCEED"

Good Seed can only be produced by the strict adherence to the very simple rules of *Scientific Selection*. The results obtained then entirely depend upon those doing the work and the interest they take in it.

THE LANDRETH SYSTEM OF TOMATO IMPROVEMENT

The beginning of any *Scientific Selection* must start with the *Plant*. The saving of perfect fruits for stock seed without consideration of the plants from which those fruits came is generally very disappointing. The crop produced from those perfect fruits may be very inferior as shown by Figure 1.

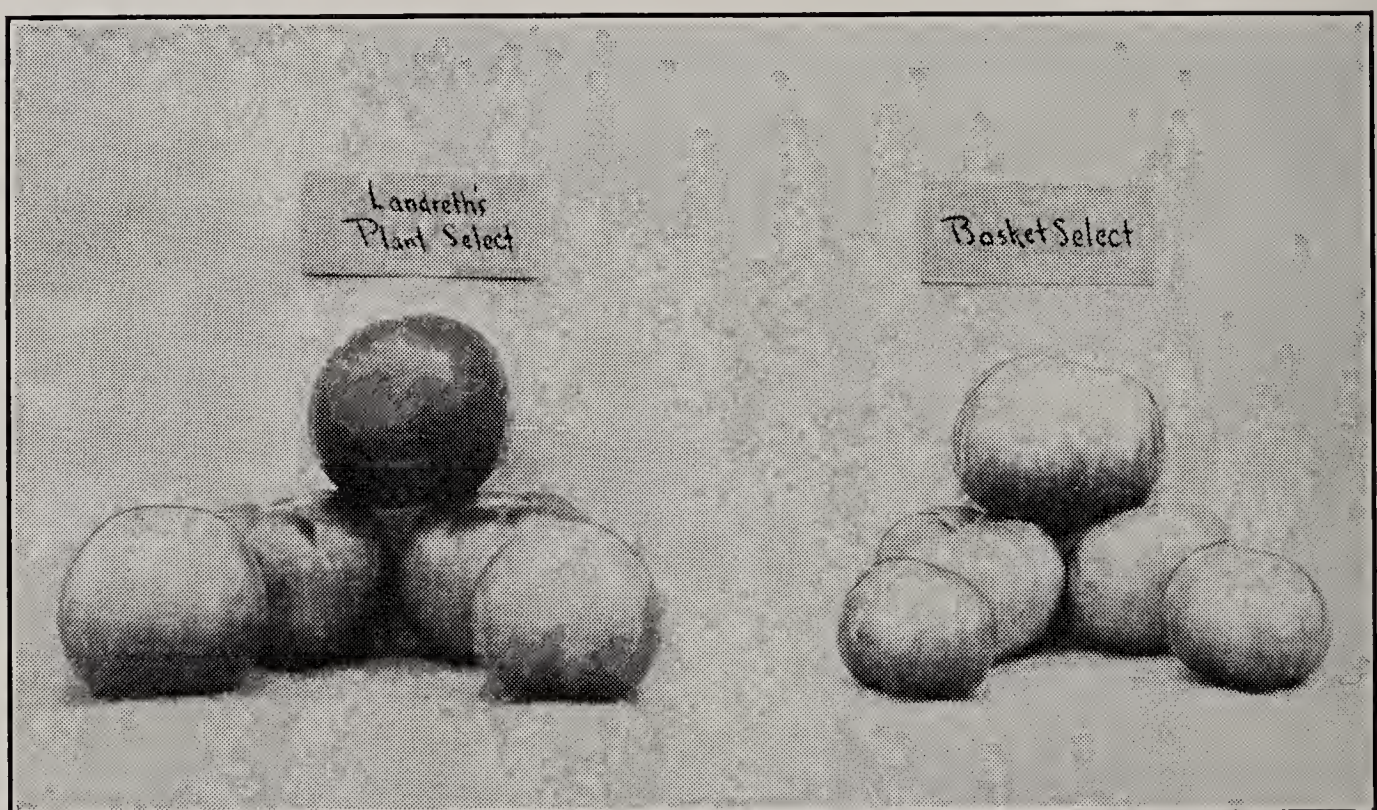


FIGURE 1—*Fruit or Basket Selections Versus Plant Selections*—The tomatoes on the left in the picture were grown from plant select seed, while those on the right were from seed taken from perfect fruits the previous year without consideration of the plant. Notice the smaller, flatter fruits of the fruit select strain of Marglobe on the right as compared with the plant selection on the left.

Landreth tomato improvement work started many years ago. Because of the importance of the plant as the basis for selection, all tomato fields of the varieties to be improved must be carefully examined. The best plants are staked, given numbers, and the seed from each plant is saved separately.



FIGURE 2—A *Typical Select Tomato Plant*—Note the uniformity of the tomatoes, the large yield of early fruits and the healthiness of the vine. Many hundreds of these are selected and given numbers every year.

Every year, seed from each staked plant the previous year is planted separately and a plot grown of each selection. For six years, a system for the elimination of the poorer plant selections has been followed. This consists in:

First—grading and weighing the fruits from each selection.

Second—examining each plant for detection of disease and trueness to type.

Third—examining the exterior and interior color of the ripe fruits.

Fourth—careful notations on the shape and size of the fruits.

Fifth—the internal structure of the fruits carefully examined.

Every year this elimination is going on, the careful records taken, and the discarding of the plant selections which do not measure up to our very high standards. It is no wonder that numerous tests at various State Agricultural Experiment Stations have shown that our Certified Tomato Seed is a superior product. Ask your own State Experiment Station about it.



FIGURE 3—*Picking, Counting and Weighing*—The best fruits from the select plants have been picked, and are being counted and weighed. Each basket represents an individual plant selection the previous year. Note the special scales and carrier which can be taken into the fields to facilitate the work.



FIGURE 4—*Cutting for Internal Structure*—Tomatoes from each plant selection are cut and careful notes taken on internal structure. Only those strains which have good color and solid interior are saved.



FIGURE 5—*Saving Plant Select Seed*—Each strain that passes previous inspections is saved separately. The girl in the center is tying up one of the small bags containing the seed. The seed in the bags is left over night in a tub for fermentation. Note the fine fruits in the baskets waiting to be cut and examined for use as select stock seed.

FIGURE 6—*Washing the Bagged Seed*—The day after cutting, the seed in the small bags is washed. Note the small waterproof tags used to identify each strain.



FIGURE 7—*Drying the Seed*—After washing, each lot is hung up to dry.



FIGURE 8—*Emptying the Seed*—Note the carefully marked envelopes used for each strain. Many hundreds of these are used each year.

Stock seed for planting our fields of certified tomatoes comes from the fruit from the best plant selections tested the previous year. In this way we always have stock seed we can depend upon, seed tested the year previous to planting.



SAVING THE SEED FOR SALE

After all the care in saving stock seed, we could not afford to let down one second in the rigid rules we have set up for saving the seed for sale.

FIGURE 9—*Certified Tomato Seed Ready for Grinding*—Note the different varieties kept separate in bins staked off by ropes. Great care is exercised in preventing mixtures.

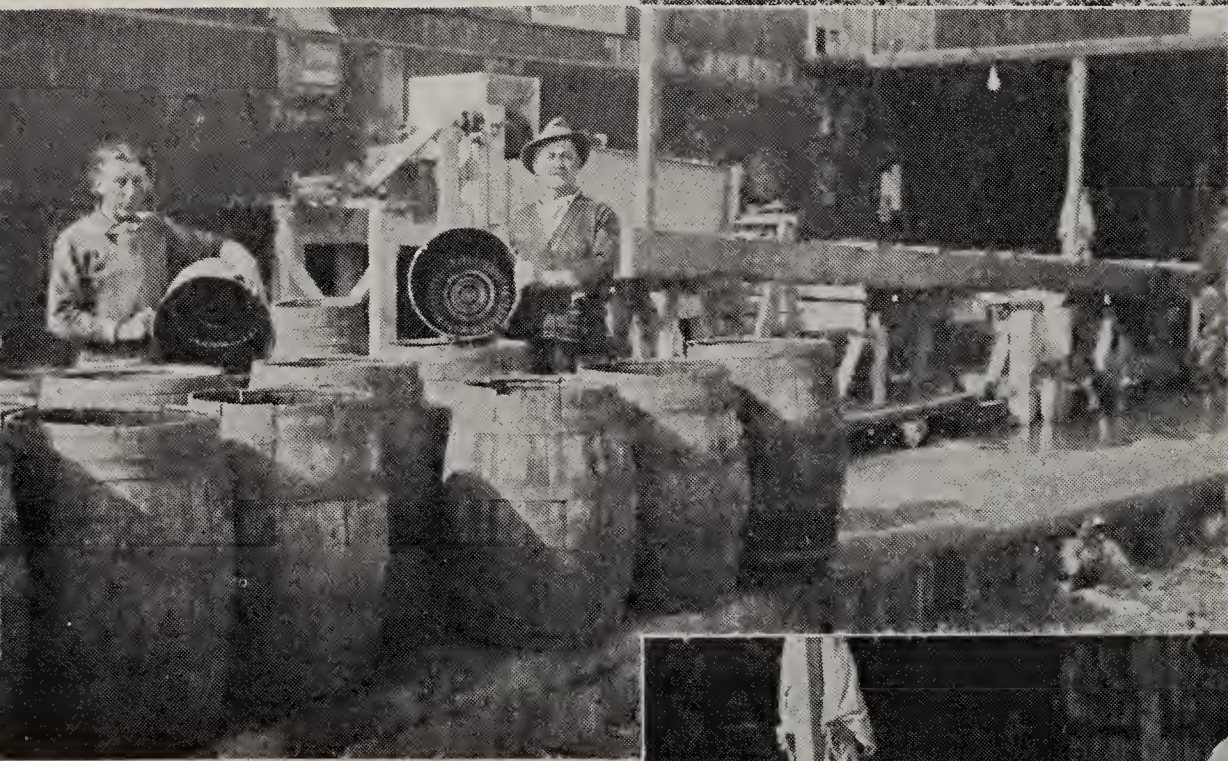


FIGURE 10—*Emptying Seed into Barrels*—The metal tubs are used to collect the seed at the grinding machines, from which they are dumped into the barrels for fermentation.

FIGURE 11—*Washing Seed*—After fermentation, the seed is washed either by the sluice method or by hand, depending upon the conditions. Some of the *washed* and bagged seed is shown in front of the large tub. Note the tags on each bag for identification.



FIGURE 12—*Drying the Seed*—Most of our certified tomato seed is dried on screens in the sunshine when weather permits.

PENNSYLVANIA STATE TOMATO SEED CERTIFICATION REQUIREMENTS

TOMATO STOCK SEED

Before any variety can even be entered for certification in Pennsylvania, stock seed from carefully selected and staked plants must be saved the year previous to certification. D. Landreth Seed Co. goes further than that as shown by the previous pages, as our stock seed is saved from carefully staked plants at least *two years previous to certification*, and seed from those staked plants *proved by test* a year in advance of certification. Only the very best tested strains are used for growing our fields for certification.

FIELD INSPECTIONS

Advanced Plant Pathologist K. W. Lauer, of the Bureau of Plant Industry, Department of Agriculture, Harrisburg, Pa., accompanied by Dr. Warren Mack, of Penn State College, and Hal Mills, Plant Breeder for D. Landreth Seed Co., inspect all our tomato fields before the first pickings are made. At least one more field inspection is necessary and sometimes one or two after that before these two inspectors are satisfied that the fields are up to the high standards required.

During these inspections the fields are rated for vigor, and the plants and fruits are carefully examined for disease and trueness to type, whole fields being discarded if they do not meet the very strict requirements.

INSPECTION OF EQUIPMENT

The seed saving machines are inspected, and the processes of washing and drying of the seed are checked.

GERMINATION TESTS

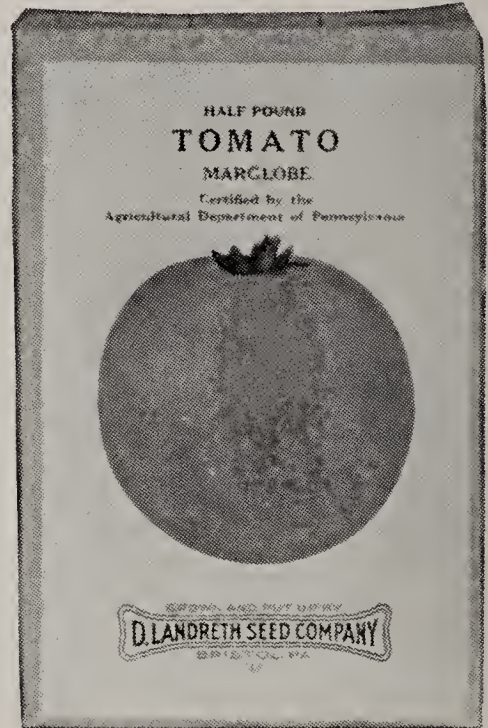
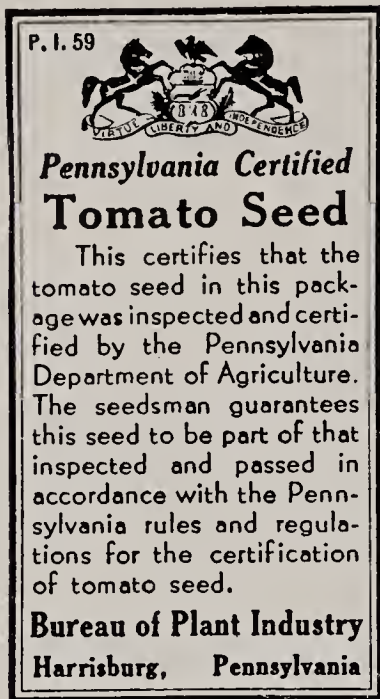
Samples of certified tomato seed are taken by Inspector Lauer direct from the bagged stocks. These are tested for germination at Harrisburg and certificates issued to our Company.



Appearing above in the illustration to the left is Hal Mills, Vegetable Specialist and Plant Breeder of D. Landreth Seed Co., and K. W. Lauer, the State Inspector. To the right is shown Mr. Lauer, Jack Tomlinson, our grower who produced over 21 tons per acre on 10 acres (Mr. Tomlinson used our special stock of Marglobe), and Dr. Warren Mack of Penn State College.

CERTIFICATION STICKERS

The Pennsylvania Department of Agriculture issues pink certification stickers which we paste on each package of certified tomato seed. These stickers state that the tomato seed in the package was inspected and certified by the Pennsylvania Department of Agriculture. We guarantee the seed to be part of that inspected and passed in accordance with the Pennsylvania rules and regulations for the certification of tomato seed.



LOOK FOR THIS PINK STICKER AND BLUE BOX WHEN YOU BUY CERTIFIED AND CROWN PICKED CERTIFIED TOMATO SEED

PROVING OUR TOMATO STOCKS

Besides the many tests which we make every year, a number of samples are sent out to experiment stations and trial grounds all over the country. These tests aid us in checking our findings.

LANDRETHS' PENNSYLVANIA CERTIFIED TOMATO SEED IS GOOD SEED

You can readily see that with all our careful selection and testing, one can hardly expect to get any better tomato seed than Landreths'. All we ask of you is to try it, compare it in a test with the tomato seed you are now using. We would be very pleased to add your name to our long list of satisfied customers all over the world.

FIGURE 17—Proving Our Stocks of Tomatoes—Samples of our seed are sent all over the country to be grown in comparison with the leading strains. This picture was taken during the meetings of The Vegetable Growers Association of America in 1935. This shows the trial grounds of The Eastern States Growers Exchange near Hartford, Connecticut. Tomato experts from New York, New Jersey, Pennsylvania, Connecticut, Michigan and the U. S. Dept. of Agriculture are seen discussing the trials.



DESCRIPTIONS OF LANDRETHS' CROWN PICKED CERTIFIED AND CERTIFIED TOMATO VARIETIES

The demand for Crown Picked Certified Tomato Seed has been so great that we have previously been unable to fill the orders for it. We now have crown picked seed of all the certified tomato varieties listed above. For crown picked seed, only the first or crown clusters of fruits are used. Some growers claim that crown picked seed is plumper and therefore produces earlier fruits the following year than the seed from later pickings. Separate descriptions of the crown picked certified tomato varieties are not necessary since those describing the certified stocks will suffice for both.

BONNY BEST (KOSHARA STRAIN)

This is a special early strain grown by an old successful market gardener on Long Island. We have been improving this for seven years. The fruits are globular when small, becoming slightly flattened as they mature. A good yield may be obtained where this type can be grown successfully.

BREAK O'DAY

An early maturing variety with large globular fruits. Not recommended for light or sandy soil because the fruits do not show good red color under these conditions. Break O'Day has been very successful in some parts of the West. It may be just the variety you are looking for.

BROWN'S SPECIAL

A new, late variety of considerable merit for canning, and especially suited for Delaware, Maryland, and the South. The stems of the plants are long, and the leaflets are large and dark green in color. The plant produces the largest amount of foliage of any tomato that we know of, and therefore is well suited to lighter soil types. Heavy applications of nitrogenous fertilizers should not be made to this variety. The fruits resemble Stone and Greater Baltimore in type, being somewhat flattened, but are much larger, averaging six to eight ounces per fruit. The external and internal color is a dark red, and the interior structure is very solid with very small seed cavities. A distinguishing character of Brown's Special is the light green color of the fruits just before they ripen. Brown's Special yields over ten tons per acre where such a late maturing variety can be grown to advantage. The crop is produced later than Stone or any of that group. This is a fine juice and canning tomato.

CHALK'S JEWEL (EAGLEY STRAIN)

This strain has been grown and selected for a number of years by a Pennsylvania farmer. We have been further selecting it for large, smooth fruits of good color. It is of the large Bonny Best type.

EARLIANA

This variety is the standard for first early fruits. We have been working on this selection to improve the smoothness of the fruits.

GLOBE (PINK FRUITS)

Some markets can use only pink fruited varieties. For this trade, we have this fine selection of globe type, with very smooth pink fruits of an exceptionally high yield per acre. These fruits are globular when small, but become very slightly flattened as they mature and attain large size.

GREATER BALTIMORE

Our strain has been carefully selected for large sized fruits, and for interior solidity. This is a very popular, midseason variety in many sections. The fruits are somewhat flattened, of good color inside and outside and produce abundantly. A yield of ten tons of fruit per acre is common with our strain. If you have been disappointed in other strains of Greater Baltimore, try ours. Last year we completely sold out our stock of this variety. From present indications it will be repeated this year.

GROTHEN'S RED GLOBE

A new variety of the Break O'Day type developed in Florida. The vines have long stems like Break O'Day, but the leaflets are somewhat larger, and more abundant. The vines stand up better than Break O'Day, and therefore help to protect the fruit from sun scald. The fruits are globe-shaped to slightly flattened, as large or larger than Break O'Day, with better external color than Break O'Day. The internal structure is very solid and meaty, and of a darker red color than Break O'Day. Ten tons of fruit per acre is not an unusual yield for this variety, some good growers producing greater yields. The crop matures at about the same time as Break O'Day.

JOHN BAER (GENEVA STRAIN)

This is one of the most popular strains of this early variety in New York State. We have been carefully staking and testing plant selections for a number of years, and think we now have a fine John Baer. The plants are vigorous and produce a good crop of globe to slightly flattened large fruits.

"THE LANDRETH"

This is an old popular variety for early growing. In recent years, we have been improving the size, uniformity, yield and solidity of "The Landreth" fruits and the uniformity of the plants as well. Some New York State canners highly praise this variety. The fruits are globular to slightly flattened and are very solid for this type.

MARGLOBE

If we were going to recommend only one variety of tomato, we would name our Marglobe, as it is suited to practically all conditions and soils, and the surest cropper of any on the market.

Due to confusion in the three types of foliage which we formerly supplied in Marglobe, we have discontinued Strains A, B, and C, and are now offering only a medium heavy foliage type which seems to fit all uses of this variety. This is a selection from Strain A, and retains the fine globe shape of the fruits, as well as the heavy yielding qualities and the foliage of that strain. For those who wish a very heavy foliage, we now offer the Rutgers variety, and for the lighter types we have Grothen's Red Globe.

Ask your own State Agricultural Experiment Station about our strain of Marglobe. Not only is the Landreth Strain of Marglobe of fine globe-shape, but it produces larger crops than most other strains of this variety. Yield records were taken on strains of Marglobe at Penn State College in 1934. The results were as follows:

were as follows:		Total Yield	
		Tons per Acre	Percent. Marketable
Marglobe, Certified A	Landreth	18.2	54
Master Marglobe	N. J. Seedsman	16.0	53
Marglobe	Conn. Seedsman	15.8	49
Marglobe Certified	Another Penn. Seedsman	15.5	43

You will note that Landreths' Strain A, the strain now being used by us exclusively, produced over two tons more per acre than the next highest seedsman's stock. Yield per acre is important to the grower.

NORTON

Where wilt disease is present, this late tomato of the Stone Group can be used with success since it has some resistance to this disease. The fruits are solid, of good color but not quite as deep as Landreths' Red Rock.

LANDRETHS' RED ROCK

For those who want a fine, solid tomato, much later than Marglobe and which is very large and deep for a selection in the Stone Group, this new strain is just the thing. This variety is especially adapted to canning and juice making, having a fine, solid interior and an exceptionally deep red color, both external and internal. It makes very fine pulp for soup. The plants are very large, and the foliage heavy, producing the crop very late in the season. Where a late tomato can be grown this new selection is worth trying.

THE RUTGERS

This new tomato is the product of Dr. Schermerhorn, of The New Jersey Agricultural Experiment Station. It was developed by crossing Marglobe with the J. T. D. The Rutgers produces a rather large plant with thick stems and large leaflets, somewhat larger in all respects than Marglobe. On good, rich land, heavy applications of nitrogen should not be made, for Rutgers is a strong grower. The natural abundance of foliage serves as ample protection from sun scald of the fruits when light, sandy soils are used. The fruits are somewhat larger than Marglobe, and about the same size as Break O'Day. Being larger than Marglobe, they tend to flatten out more than this variety, not being quite as globe-shaped. The external color is dark red. The internal structure is as good as our Marglobe or Break O'Day, having thick outer and inner walls, and very small seed cavities. The internal color is darker red than Marglobe. It is claimed that the Rutgers makes juice of low acidity and fine flavor, intermediate between the sweet Marglobe and the very tart late varieties. It is a good canning tomato. It is also claimed that Rutgers will yield as well as Marglobe, and on light, sandy soil will surpass this variety, since the vines offer more protection for the fruit. Under good conditions, ten to fifteen tons per acre is not an unusual yield. The maturity is about the same as Marglobe, that is in the second early class. In South Jersey, plants set out in the field about May 15th, produced the first fruits on July 10th in 1934.

STONE

This late selection of the Stone tomato is not as large as the Landreths' Red Rock fruits nor are the plants quite as heavy in foliage. Many growers use it for canning since the fruits are very solid and of a good dark red color. It has some resistance to wilt.

LANDRETHS' SUNRISE

This is a fine selection in the Earliana or early group. It produces fairly smooth fruits a few days before the strains of Earliana which we have tested. The plants are slightly smaller than Earliana.

PRITCHARD OR SCARLET TOPPER

This variety generally ripens its fruits a few days earlier than Marglobe. The plants are smaller than Marglobe, with less foliage and are self-topping in growth. Best results are obtained by planting Pritchard on good, rich soil, and by setting the plants closer in the row than is generally practiced. The fruits of Pritchard are generally slightly smaller than Marglobe and are slightly more flattened than this variety. The best features of Pritchard are its fine interior color and solidity and its ability to ripen its crop over a short period of time. We have an exceptionally fine strain of this variety. Due to the great demand last year, we were entirely sold out months before planting time. For two years our strain of Pritchard was the unanimous choice for first place by the judges in two different state tests.

UNCERTIFIED TOMATO SEED

We believe that the varieties of tomatoes now certified in Pennsylvania, are the best that can be grown in the World. However, certain other varieties have special uses and are grown in a limited way in some parts of the country. It would not pay to enter for certification such limited amounts of seed of these varieties.

Besides these special varieties, we offer uncertified seed of the varieties which are certified. This seed is saved from the fields rejected by the inspectors due to poor cultural conditions. We are cooperating with the State of Pennsylvania in trying to make certified tomato seed really mean something.

THE BLOOMSDALE (NOT CERTIFIED)

The Bloomsdale is one of the finest midseason varieties we have ever seen. It is of the Greater Baltimore type, but the fruits are larger and deeper than other strains we have tested. It is especially adapted to canning. Reports from Texas show that it is suited to that territory. We expect this will be certified in 1936.

PENN STATE (NOT CERTIFIED)

While the Penn State was not certified in 1935, due to the presence of some off-type plants, we feel that it is an important addition to our tomato list. The Penn State is a new hybrid created by crossing Cooper's Special with Earliana. Dr. Myers, of Penn State College, developed it. This is a self-topping type of vine with short thick stems, and large, coarse dark green leaflets. Because of the small size and compactness of the plants, they may be set in rows three feet apart, and eighteen to twenty-four inches between the plants in the row. This close planting tends to bunch the foliage, thus giving some protection to the somewhat exposed fruits. The fruits are borne in clusters of four to six, closely set in the center of the plant, several clusters generally being found bunched together within a very small radius from the main stem. The fruits are medium in size, smooth, slightly flattened, of good red outside and inside color, and of fine solid internal structure with small seed cavities. The total tons of marketable fruits of Penn State are generally better than Earliana because the fruits are smoother and ripen more evenly than this variety. Since the plant tends to bunch the majority of the fruit at the center, and these fruits tend to ripen at about the same time, only three or four pickings are generally necessary to harvest the complete crop. In most sections, Penn State will mature as early as Earliana. We expect this variety will be certified in 1936, since the stock seed has been cleared up.

**Write for Our Catalog and Prices on Our Certified, Crown Picked
Certified, and Uncertified Tomato Seed to**

D. LANDRETH SEED CO., BRISTOL, PENNA.